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RAPID SITUATION ASSESSMENTS OF ALCOHOL AND SUBSTANCE USE AMONG COMMERCIAL VEHICLE DRIVERS IN NIGERIA

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**ABSTRACT**

**Objectives:** To describe the current situation with respect to substance use and related harms among commercial vehicle drivers, and to identify a range of interventions that could be feasibly implemented to minimise harms related to substance use.

**Study design:** Observational and group interviews.

**Setting:** Four different motor parks in Ibadan, Nigeria.

**Subjects:** Data were obtained from a sample of commercial vehicle drivers, community and members of the law enforcement agencies.

**Results:** Widespread use of psychoactive substances was reported. New trend of local alcohol beverage generally called 'sepe' tended to have replaced older ones such as palm wine. All substances of abuse were freely available and openly displayed at motor parks except for cocaine and narcotics. There was poor law provision and enforcement of laws prohibiting sale and use around motor parks or while driving.

**Conclusions:** This study shows the feasibility and value of conducting rapid assessments among commercial vehicle drivers in Nigeria. One outcome of this study is the development of a guide on rapid assessment of alcohol and other substance use assessment and a measure of brief intervention among them. Presentation of these findings should contribute to increased awareness and improved response from the government.

**INTRODUCTION**

Injuries following brain altering substances constitute a leading cause of mortality worldwide and are a major public health issue. About thirty people die in motor vehicle crashes that involve an alcohol-impaired driver in the United States on daily basis. This amounts to one death every 48 minutes (1). The likelihood of arrest as a result of driving under influence of alcohol is high in various Western countries (2-6). This may be as a result of the level of attention given to the problem and road traffic laws in those countries (7-10).

In Nigeria, despite high rates of alcohol and drugs among commercial vehicle drivers (13-14), and high death toll as reported in 2008 (15), policies against driving under influence of brain altering substances have not been enforced effectively by law enforcement agents.

Globally, substance use is an important cause of ill-health and mortality (16-17). Thus, a number of effective interventions exist for problem substance use (18-21), but little attempt has been made to adapt these interventions to populations who by nature of their job are always on the road in this instance commercial drivers. Thus, the information template

on which to base these interventions remains sparse. This study was carried out to provide such useful data that would be useful in defining guidelines for effective intervention for the concerned group and policy development by the government.

**MATERIALS AND METHODS**

**Study populations:** This study was carried out among long distance commercial vehicle drivers in Ibadan. Ibadan is the capital of Oyo state, south-West of Nigeria and has a population of about 3.5 Million people (22). Data were collected between January and July 2009 from drivers plying four different routes in Nigeria, namely North, East, Middle Belt and Far West –across Nigeria Border.

**Sampling Procedure:** All the 16 intercity motor parks in Ibadan were stratified into four groups according to the farthest destination they ply: namely North, Middle Belt, and Eastern regions, Far West (that is, into neighbouring countries- Benin Republic and Ghana). The criterion to be met by a driver in order to qualify as "long distance driver" was that the final destination was at least 500km from port of embankment which is Ibadan.

A motor park was randomly selected from each of the groups by balloting. The total number of drivers was obtained from union leaders. The chosen study motor parks were Ojoo Motor Park, New garage, Sango and Academy Motor Park respectively. Before the commencement of the assessment, the executive members of the drivers' union in each study park were approached and the objectives of the study spelt out. Thus, a list of all drivers in each motor park was obtained.

In view of the peculiarity of the study population being 'hard-to-reach or hidden' because of the nature of their job, and the sensitive nature of the study objective, a non-probability based technique (snowball sampling method) was used to co opt commercial drivers for the focus group discussion.

In the first stage of this sampling method, drivers

were identified based on the list obtained from their union executive, they constituted the first unit. Thereafter, second unit drivers who were interested in the study were identified by the first unit drivers in view of the sensitivity of the study. The process continued until sufficient units were identified to meet the desired sample size.

In order to obtain a diverse opinion on the topic, two of the group compositions were made heterogeneous. Thus, non drivers who participated in such groups such as local brewers, hoteliers and members of the law enforcement agencies were selected by nomination by identified key individuals in each respective group. The nominees were familiar with the topic and volunteered to participate.

Two rapid assessments were conducted. The study sites are summarised in Table 1.

**Table 1**  
*Study Sites by Composition of Focus Group*

Motor Park	Final Destination	Location	Composition	Sample size	Number of sessions
Ojoo	North	Motor Park	Heterogeneous	15	1
New Garage	East	Motor Park	Homogenous	15	1
Sango	Middle Belt	Motor Park	Heterogeneous	10	1
Academy	Far West-Ghana	Motor Park	Homogenous	4	1

The study aimed to describe the current situation with respect to substance use and related harms among commercial vehicle drivers, and to identify a range of interventions that could be feasibly implemented to minimize harms related to substance use.

The main objectives were to assess the:

1. Profile and pattern of psychoactive substances use by commercial drivers
2. Describe the various contexts in which substance use occurs
3. Describe the drivers, substance vendors and members of the law enforcement agencies' understanding of patterns of use.

4. Describe existing resources and interventions relevant to substance use and related harms

*Procedures:* The methods and procedures used in each site are summarised in Table 2. All studies utilised focus group discussion and direct observation using some items as contained in the Composite International Diagnostic Interview,(23) as well as from extensive review of literature on the subject matter as opening questions. The questions are listed in Table 3. All interviews were conducted by the principal researcher and his assistants.

**Table 2**  
*Summary of methods by study*

Motor Park	Methods	Sample size	Composition	Sample characteristics	Sample selection	Duration of each field work
Ojoo	FG DO	15	Drivers substance vendors  L E A members	Gender: female and male Age: 17-57 Ethnicity: Hausa, Yoruba, Igbo, 2 other minority tribes	Nomination of non- driver participants and snowball sampling of drivers	90 mins
Academy	FG DO	11	Drivers	Gender: Male Age: 35-58 Ethnicity: Yoruba, Igbo, Hausa	Snowball sampling	60 mins
New Garage	FG DO	15	Drivers	Gender: Male Age: 35-51 Ethnicity: Igbo, Yoruba, Itsekiri	Snowball sampling	90 mins
Sango	FG DO	10	Drivers Hoteliers	Gender: female and male Age: 26-67 Ethnicity: Igbo, Yoruba, Hausa	Nomination of non- driver participants and snowball sampling of drivers	45 mins

**Table 3**  
*Questions for Focus Group on Psychoactive substances use among commercial drivers*

<b>Engagement issues</b>	
1	Common substances that drivers drive under their influence
2	Experience when driving under influence (DUI).
<b>Exploration questions</b>	
3	Factors that promote DUI.
4	Advantages of DUI.
5	Relationship between DUI and road accidents.
6	Association DUI and problems with law enforcement agencies.
7	Association between psychoactive substance use and health problems.
8	Emerging trends of alcohol and other psychoactive substances.
9	Comment from any other person such as brewers, hotelier or member of the law enforcement agency if present?
<b>Exit question</b>	
10	Additional comments?

Researchers maximised the information given the time and logistic constraints available in view of respondents' professional work and limited education. As in other qualitative research in the area of substance use,

the study aimed at cultural and not demographic representativeness (24). Participants were from the major ethnic and language groups and different ages participated.

*Sample size:* Sample size was determined by using the principle of 'pragmatic redundancy' where data collection was stopped when teams were satisfied that core cultural beliefs had been represented when no new information was found (data saturation) (25). The number of individuals involved in the focus group discussion varied in the different motor parks.

At Sango Motor Park ten persons were in attendance. This was in accordance with MacIntosh(26) who recommended 6–10 individuals. Ojoo and New Garage motor parks had 15 members each in attendance in accordance with the recommendation of Goss and Leinback (27). While academy motor park had four people in attendance in accordance with Kitzinger (28). It was difficult to get a neutral place as recommended by Powell and Single(29) because most of the drivers could not leave their motor park. Therefore each group discussion was carried out in the offices of the drivers' union chairmen in the respective motor parks.

All participants were formally contacted in writing to confirm interest and availability and were reminded two days before study. They were duly informed of the location and time of the focus group and the timing was such that it did not interfere with their work or other private issues. The moderator was the principal researcher who is versatile on the topic. Consent forms were distributed to the participants and a short socio-demographic survey was carried out and coded in the provided forms. Each session commenced by welcoming all participants and appreciating them for participating. This was followed by the introduction of the moderator and his assistant. The purpose of the discussion was explained to the members of the group so were the ground rules.

*The ground rules:* Participants did the talking, there were no yes or no answer, information divulged were to be confidential, all activities were to be tape recorded. However, personal ego and views were absolutely kept away during all the sessions. The assistant moderator recorded all the sessions, and reported other activities including body languages and other subtle clues. He was however silent during the sessions.

Snacks were served at each session. They were offered incentives of free blood pressure measurement and urine analysis. Immediately after all participants left, the moderator and his assistant debriefed while the recorder was still running. All tapes and notes were labeled with date, time and name of group

In addition, all sites conducted direct observations of relevant alcohol and drug using and selling activities, observing drivers' behaviours', people and objects present, making detailed notes afterwards. Key informants assisted in mapping out relevant

places of alcohol production, use and sale, on a hand-drawn plan of each motor park.

Initial meetings were held with the drivers' union chairmen, in order to explain the objective of the study and to promote full participation and more importantly the drivers' role in follow up actions. Preliminary results were fed back to the drivers during their meetings and action plans developed either as part of the initial process or subsequently once the results had been finalised.

*Analysis:* Data analysis commenced during the period of data collection in the field. The data were initially collated into broad themes by the researcher in a matrix and thereafter transcribed at the end of each day by the researcher and research assistants to identify emerging themes for further exploration during focus groups and with members of the motor parks. A further thematic analysis was conducted aimed at unitising the data. This was carried out by two independent analysts. The analysis included categorising of themes, identification of associations between themes and subthemes, search for outlier examples, intervening variables and triangulation with other data sources. The two analysts reconciled their data and came to a consensus opinion on issues of discussion. Quotes were also reported after the data collection.

*Ethical Issues:* Ethical guidelines and approval were obtained from the Oyo State Ministry of Health and informed consent obtained from all participants. The studies were conducted as operational research to inform decision making with respect to interventions. Members of the research team included those who also understood the major languages in Nigeria. In order to maintain confidentiality, no identifying information was recorded in the project documentation. Participants who were identified as requiring medical intervention were referred for further care.

## RESULTS

Key qualitative findings are hereby reported by Motor Park.

*Ojoo Motor Park:* Ojoo Motor Park is located at Akinyele local government area of Ibadan. The motor park is the largest in Ibadan. At the time of the assessment there were four sections, the trailer and truck section, the commercial buses section, the luxurious buses section and the small buses section. It has over 1000 registered drivers.

Access to health and other services in the area was not satisfactory; there was no health facility within the motor park although there was a nearby health centre for the entire population of that local government.

Other cited services were small business initiatives such as catering services, hairdressing, small foods and soft drink kiosks, tailoring and cobbling services.

Alcohol production and use was widespread.

Fermented adulterated local beverages referred to as 'sepe', 'paraga', 'jedi', 'ale', 'afato' and bland locally prepared liquor ('ogogoro') were both openly sold and was about the most popular alcohol beverage within the motor park. In addition, distilled liquor in sachets popularly described as 'pelebe' and all sorts of bottled spirits were also observed. Also observed was sorghum and 'pito'. Alcohol, the tobacco and Kola-nut sale and use were at liberty. Use of illegal substances such as cannabis and opiod (codeine) popularly referred to as 'ICI' use was reported. Open cocaine use and sale were not observed. Other substances included petrol inhalation

*Focus group discussion (15 members):* In attendance were drivers, substance sellers, union members, and one road safety corps personnel. A driver commented "when I drink, I want to have sex with anybody even in the absence of a condom". Thus, unsafe sexual practice was confirmed by this man

*A male brewer:* The consensus of opinion was that they had to fend for themselves, because they wouldn't go out begging. One said "Ogogoro na medicine there is no medicine wey no get ogogoro inside" (in pidgin English)

*A female brewer/commercial sex worker:* "Tbrew because I have to fend for my children, their Papa is dead. Drivers buy my brew and my body, they enjoy my

pussy. Survival is important".

*Federal Road Safety Commission Boss:* "A large number of road traffic accident involves commercial drivers and these drivers and their touts take various types of drugs to improve their performances, unfortunately, these drugs are readily available around the motor parks with nobody to put them to check. It is important to note that the police may not be able to control the availability and sales of these drugs as many of them use drugs as well. Again it should not be forgotten that, commercial drivers and Police know how they settle themselves".

*A policeman:* "When a country is sick, everybody is sick, including the commercial drivers, the people that sell drugs, and also the police". He further stated "The problem of the commercial driver is greed which is peculiar to all Nigerians".

*A Passenger:* "Alcohol use had increased because there are many breweries. So also are local brewers. For one participant, "alcohol use had increased in everyone over time because of deploring socio-economic situation in the country". In the course of this study, a past year road accident rate of about a third of the drivers' population in the study park and seventeen drivers with substance related health problems were identified by members of the FGD group and arraigned for intervention at a later date (Table 4).

**Table 4**  
Results of direct observation

	Ojoo	New Garage	Owode	Academy	Lowest Cost (US dollars)
Alcohol					
Beer/stout	4+	4+	4+	4+	1.25/60cl
Local gin (Ogogoro)	4+	4+	4+	4+	0.25/unit
Sepe etc	4+	4+	4+	4+	0.25/unit
Palm wine	3+	3+	3+	2+	0.8/60cl
Pito	4+	3+	2+	2+	0.8/60cl
Distilled spirit	4+	4+	4+	4+	1.1/60cl
Sorghum	2+	3+	2+	1+	0.7/60cl
Wine	1+	1+	1+	1+	3.75/60cl
Tobacco	4+	4+	4+	4+	0.8/24 sticks
Cannabis	4+	4+	4+	4+	0.4/gm
Prescription medication					
Diazepam	4+	3+	3+	2+	0.03/5mg tab
Cocaine	1+	1+	1+	1+	3/gm
Heroin	1+	1+	1+	1+	3/gm
Organic solvents					
Gasoline	4+	4+	4+	4+	0.4/liter
Glue	2+	1+	-	-	4/liter
Kola nut	4+	4+	4+	4+	0.13/piece

*New garage (15 members):* This motor park is situated at Oluyole local government of Ibadan and had 463 registered drivers as at the time of the interview. At the time of the assessment, access to health, alcohol and substance education services around the motor park were limited, fragmented, and supported largely by traditional healers and medicine vendors.

Alcohol was considered easily available, relatively cheap and widely consumed by these commercial drivers, passengers and Motor Park operatives.

Distilled can beer, bottled beer, distilled spirits were consumed in bars or at nearby street stalls. In addition locally produced palm wine is popular. Locally produced commercial spirits 'ogogoro' and local brews with herbal ingredients generally referred to as 'sepe' or 'jedi' were readily available.

Cannabis was typically smoked in a rolled or cigarette form. Other forms of preparation included being cooked in soup or with beans, or prepared as pap, brewed as a tea as an intoxicant and as an appetite stimulant.

*A driver:* "Amphetamine works like ephedrine, if you take just one tablet you can keep awake for one week.

If you are feeling sleepy, all you need is a bottle of big stout to keep it working. Immediately you take it, your penis will shrink and all your nerves will be pulsating. By the time you get to your final destination, you just need a tin of milk in a big bowl of water, when you take that plus heavy meal, you sleep off".

Some commercial sex workers reported that diazepam is used in bars as a 'date rape' drug, with men slipping the substance into the drink of women without their knowledge or consent.

Different forms of cocaine as well as heroin were also available although they were very expensive. High prices may prevent more popular use of these substances. A cocaine and cannabis smoking mix appeared to be more common and was reported to be typically consumed by inhaling using the 'chasing the dragon' method. No respondents reported injecting drugs.

Substance use was believed by some passengers to be problematic because it promotes health problems and violence. They reported that political violence in the country is perpetrated by commercial drivers and this is under the influence of alcohol and drugs.

*Drivers' union chairman:* The chairman stated that, the drug taking habit of commercial drivers after all, may not be as serious as people think. He was of the opinion that drivers may after all be more responsible than students, since most of them are married and have children. He described "serious drug taking" in

drivers as a passing phase which disappears as soon as the driver was able to own his personal vehicle.

*A driver:* "like any other human being we do have malaria and typhoid. However a couple of us actually have had "Jaundice before while some have died of stroke, but I don't think it is because we are drivers. One of the problems we have is that there is no nearby hospital".

*Sango (10 participants):* At Sango Motor Park, a total of 562 drivers were formally registered with their union. This motor park is situated at Ibadan North West local government area.

Access to health care and other services in this motor park was limited. Alcohol was readily available; its use was widespread and considered an important social problem. In addition, some cannabis use was reported, although its use was hidden due to threat of punishment and it was seen as a less important problem than alcohol from the drivers' perspectives.

*A brewer:* "It is part of our culture to brew alcohol, and there is always a high demand for it."

*An hotelier:* "Drivers need to eat very well and drink very well and enjoy themselves with women. Their job is very risky and hazardous. We have located our hotels to be very near their motor parks so that they won't have difficulties getting to us".

*A driver:* "If a man doesn't drink, smoke or womanize he can easily kill". When asked about their wives' attitude to alcohol, a driver replied; "my wife cannot query me for taking alcohol? They cannot just say anything except they are mad, they should be at home in any case".

*Academy (4 drivers):* This motor park has 56 registered drivers and is located at Ibadan South East local government area.

Alcohol was the most important substance-related public health and social concern. It was cheap and readily available. A number of other substances were mentioned including cannabis. Inhalant use of gasoline by drivers was reported. Use of all these substances was considered less prominent than alcohol.

Most drivers were believed to drink alcohol, alcohol use was described as a culturally acceptable and appropriate response to the stressors of driving. As elsewhere, enjoyment and socialising were seen as important benefits of alcohol use.

One driver explained: "commercial drivers need to eat heavily. We do not have time to attend parties as we are always on the road, so we drink."

*Another driver:* "Stout particularly is good for the body because it is tonic, the quality of which is improved by adding a tin of milk to a big bottle".

Another driver reported: "whatever you discover here may not be as bad as what you will discover in the barracks". "We are involved in road accidents just like private car owners".

## DISCUSSION

This study found that the relationship between alcohol and drug use and the harmful consequences is complex. For example, employment outside the home setting may be important in promoting substance misuse among these commercial vehicle drivers. Development of harm could have been influenced by limited access to health services and health education. Lack of health education and close ally with female brewers and commercial sex workers could facilitate risky behaviours such as unsafe sex. Failure to enforce laws prohibiting sale of alcohol and drugs within or around motor parks could facilitate substance use and misuse among these drivers. Consistent with the public health approach, the goal of intervention is harm reduction moreover; the drivers were of the opinion that substances enhanced their work performance.

Therefore, more work is required in developing effective interventions that will address the determinants of problem substance use. Nevertheless, a number of points for intervention were identified. Although a number of these interventions are not commonly carried out in Nigeria; they should include screening and brief intervention for high risk alcohol use, for which there is good evidence of effectiveness in other settings (30). Identification and treatment of severe mental illness (as both a cause and consequence of substance use) are very important. In addition, targeted provision of condoms and needles and syringes may be indicated. Primary health services should be capable of managing withdrawal and other acute problems.

Expanded interventions can include behaviour change communication to reduce HIV risk especially in those most at risk such as women brewers, commercial sex workers, and their clients, peer-outreach needle-syringe exchange programmes and hepatitis B vaccination programmes among injection drug users should be carried. These have shown to be effective in other settings, (31-32) and may be applicable to commercial drivers as well. Community participation should promote acceptability and sustainability of interventions (33).

There is a need for mass educational awareness programme on the harms associated with substance use and other primary prevention strategies need to be put in place. There is a need for random toxicological assessments among these drivers with

stiff punishment such as withdrawal of driving license and other penalty measures. Laws need to be put in place and enforced regarding advertisement, manufacture or sale of substances within and around the motor parks. The structure of certain law enforcement agencies such as the police and the federal road safety commission require improved effectiveness in order to enforce laws.

Finally, drivers should have access to comprehensive treatment services for mental and physical health problems as both a cause and consequence of substance use and for substance use. Studies have shown that high proportion of them has physical and mental health problems (34). Mental health assessments should include information on substance use.

There are a number of limitations to these rapid assessments that need to be taken into account when interpreting the findings. Firstly, qualitative approaches provide ongoing information about individuals and communities at the time that the study is conducted, but conclusions cannot be generalised to other settings or to the same population at a different time. This is particularly important in a setting of high mobility such as commercial drivers. A quantitative data is required on key issues found from the present study.

A more in-depth exploration of new issues that generated should be carried out. The use of external actors unknown to the drivers could have led to inadequate information on issues that were found very stigmatising or that required penalty. This study provided an overview of the commercial drivers' understandings of patterns, contributing factors, and consequences of substance use, thus permitting programmatic recommendations to be made. Observations about the public health magnitude of substance use problems among the study population could not be made. These studies do suggest however that substance use in commercial drivers can be a continuation or exaggeration of what occurs in other population since non drivers were also interviewed.

Similar to an earlier study,(35) emerging pattern of alcohol use included herbal alcohol beverages marketed by brewers under various names such as 'sepe', 'jedi', 'opa-eyin', 'ale', 'afato', 'alomo' were reported. These beverages are believed to have various medicinal values. 'Sepe' is the general name for all of them, 'jedi' is believed to be effective in treating haemorrhoids, 'opa-eyin' for back pain, 'ale' is believed to be an aphrodisiac, 'afato' is believed to improve semen quality and indicated in male infertility, 'alomo' is believed to also be an aphrodisiac. Factors that mediate these observed transitions patterns of substance use are not clearly understood. Factors may include cost of distilled spirits, advertisement by local brewers. In terms of drugs, the use of organic solvents (gasoline) is a

new emergence. Facilitators may include its ready availability. Changing social networks and influence of western culture may also promote change. In addition, the studies suggest that a number of underlying elements of the employment outside the home setting and risky occupation.

In conclusion, this study attempted to address an issue of public health importance which is psychoactive substance use among commercial drivers. The conduct of these assessments by qualitative methods have enabled an understanding of trends in pattern change and production of uncensored information from various people which a structured assessment instrument such as the Composite International Diagnostic Instrument (23) would have produced. Findings from the present study corroborate previous ones using structured assessment instruments (14).

More work is required on gathering epidemiological data from population employed outside home setting. However, this study shows that such people demand greater attention to prevention and treatment of the harmful consequences of substance use.

More experience is required collectively on how best to respond to substance use among commercial drivers. Interventions need to be conducted and results disseminated.

Since snowball sampling does not select units for inclusion in the sample based on random selection, unlike probability sampling techniques, it is impossible to determine the possible sampling error and make generalisations (that is, statistical inferences) from the sample to the population. Thus results of the focus group discussion may not be truly representative of the entire population of commercial drivers. This focus group discussion was in one session in all the study parks which could have limited the findings reported in this study. It is recommended that focus groups should consist of at three to four sessions.

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